

ForumIAS

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Prelims Marathon

20th to 26th July,
2020

HISTORY

ECONOMICS

POLITY

SCIENCE AND TECHNOLOGY

GEOGRAPHY AND ENVIRONMENT

History

Q.1) Consider the following statements regarding the **Champaran Satyagraha**:

1. Gandhiji was requested by rajkumar shuklato look into problems of farmers.
2. Tinkathia system was practiced by European planters around champaran area.
3. Peasants sell their produce at market prices.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: B

Explanation: Gandhiji was requested by Rajkumar Shukla, a local man, to look into the problems of the farmers in context of indigo planters of Champaran in Bihar.

- The **European planters had been forcing the peasants to grow indigo on 3/20 part of the total land (called tinkathia system).**
- When towards the end of the nineteenth century German synthetic dyes replaced indigo, the European planters demanded high rents and illegal dues from the peasants in order to maximise their profits before the peasants could shift to other crops.
- Besides, **the peasants were forced to sell the produce at prices fixed by the Europeans.**
- When Gandhi, joined now by Rajendra Prasad, Mazharul- Haq, Mahadeo Desai, Narhari Parekh, and J.B. Kripalani, reached Champaran to probe into the matter, the authorities ordered him to leave the area at once.
- Gandhi defied the order and preferred to face the punishment. This passive resistance or civil disobedience of an unjust order was a novel method at that time.
- Finally, the authorities retreated and permitted Gandhi to make an enquiry.

Q.2) Ripon's Resolution has a great historical significance on which of the following given below fields?

- a) Educational reforms
- b) Health reforms
- c) Financial reforms
- d) Decentralization

ANS: D

Explanation: The Government of Ripon desired the provincial governments to apply in case of **local bodies** the same principle of financial decentralization which Lord Mayo's Government had begun towards them. For his contributions, Lord Ripon is called father of local self-government in India.

Q.3) Which of the following Princely States is/are annexed by British under "**Doctrine of Lapse**"?

1. Satara
2. Junagarh
3. Mysore

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: A

Explanation: In simple terms, the doctrine stated that the adopted son could be the heir to his foster father's private property, but not the state; it was for the paramount power (the British) to decide whether to bestow the state on the adopted son or to annex it.

- The doctrine was stated to be based on Hindu law and Indian customs, but Hindu law seemed to be somewhat inconclusive on this point, and the instances of an Indian sovereign annexing the state of his vassal on account of 'lapse' (i.e., leaving no issue as heir) were rather rare.
- Maharaja Ranjit Singh had annexed a few of his feudatory principalities on account of 'lapse'. Likewise, the Company in 1820 acquired a few petty Cis-Sutlej states on the absence of heirs.
- Nonetheless, there was no clear-cut instance of an adopted son being deprived of an entire state or of such a state being regarded as a 'lapse'.
- Though this policy is attributed to Lord Dalhousie (1848-56), he was not its originator. It was a coincidence that during his governor-generalship several important cases arose in which the 'Doctrine' could be applied.
- Dalhousie showed too much zeal in enforcing this policy which had been theoretically enunciated on some previous occasions.
- His predecessors had acted on the general principle of avoiding annexation if it could be avoided; Dalhousie in turn acted on the general principle of annexing if he could do so legitimately.
- It was a matter of chance that during Lord Dalhousie's term many rulers of states died without a male issue and seven states were annexed under the Doctrine of Lapse.
- **The most important of these were Satara (1848), Jhansi and Nagpur (1854). The other small states included Jaitpur (Bundelkhand), Sambhalpur (Orissa), and Baghat (Madhya Pradesh).**

Q.4) Which of the following are the **aims and objectives** of Indian National Congress (INC)?

1. Found a democratic, nationalist movement.
2. Politicize and politically educate people.
3. Establish the headquarters for a movement.
4. Fight for immediate and complete independence.

Select the correct answer using the code given below:

- a) 1, 2, 3 and 4
- b) 1, 3 and 4 only
- c) 2, 3 and 4 only
- d) 1, 2 and 3 only

ANS: D

Explanation: The main aims of the Indian National Congress in the initial stage were to

- **found a democratic, nationalist movement**
- **politicize and politically educate people**
- establish the headquarters for a movement

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- promote friendly relations among nationalist political workers from different parts of the country
- develop and propagate an anti-colonial nationalist ideology
- formulate and present popular demands before the government with a view to unifying the people over a common economic and political programme
- Develop and consolidate a feeling of national unity among people irrespective of religion, caste or province.
- **Carefully promote and nurture Indian nationhood.**

Q.5) Who among the following headed by the **Surat session** of Indian National Congress?

- a) Dada Bhai Naoroji
- b) Bal Gangadhar Tilak
- c) Rashbehari Ghosh
- d) Lala Lajpat Rai

ANS: C

Explanation: Rash Behari Ghosh was born on 23 December 1845 in Burdwan, West Bengal. After a short spell in the local pathshala, Rashbihari was educated in the Burdwan Raj Collegiate School.

- Passing the entrance examination from Bankura, he entered Presidency College, Calcutta and obtained a first class in the M.A. examination in English. In 1871 he passed with honours the Law examination and in 1884 was awarded the degree of Doctor of Laws.
- Ghosh was closely associated with Calcutta University. From 1887 to 1899 he was a member of the Syndicate. Gokhale's scheme of compulsory primary education received his warm support and during the Swadeshi movement he supported the move for national education, becoming the first President of the National Council of Education (1906 - 21).
- He did not associate himself publicly with the Indian National Congress until 1906. His first important appearance in politics was in 1905 when he presided over a meeting held in the Calcutta Town Hall to protest against the offensive remarks of Lord Curzon at the Convocation ceremony of Calcutta University.
- In 1906 he was the Chairman of the Reception Committee when the Congress held its annual session in Calcutta. **Next year (1907) he presided over the Surat session which ended in pandemonium.** In 1908 he presided over the Madras session.

Q.6) “**Lothian committee**” is related to which of the following reforms?

- a) Separate Electorates
- b) Rural Development
- c) Financial decentralization
- d) Civil Service reforms

ANS: A

Explanation: The Communal Award, based on the findings of the Indian Franchise Committee (also called the Lothian Committee), **established separate electorates** and reserved seats for minorities, including the depressed classes which were granted seventy-eight reserved seats.

Q.7) Which of the following conditions is/are issued under “**Delhi Manifesto**”?

1. The purpose of the round table conference should be to determine whether or when dominion status was to be reached.
2. Congress should have a majority representation at the conference.
3. General amnesty for political prisoners.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 3 only

ANS: C

Explanation: On November 2, 1929, a conference of prominent national leaders issued a ‘Delhi Manifesto’ which put forward certain conditions for attending the Round Table Conference:

- that the **purpose of the Round Table Conference should be not** to determine whether or when dominion status was to be reached but to formulate a constitution for implementation of the dominion status (thus acting as a constituent assembly) and the basic principle of dominion status should be immediately accepted;
- That the **Congress should have majority representation** at the conference; and
- There should be a **general amnesty for political prisoners and a policy of conciliation**;
- Gandhi along with Motilal Nehru and other political leaders met Lord Irwin in December 1929 (after the viceroy had narrowly escaped after a bomb was detonated meaning to hit the train he was travelling in).
- They asked the viceroy for assurance that the purpose of the round table conference was to draft a constitutional scheme for dominion status.
- That was not the purpose of the conference, said Irwin. Viceroy Irwin rejected the demands put forward in the Delhi Manifesto.

Q.8) which of the following proposals is/are put forwarded by the **Cripps Mission**:

1. An Indian Union with a dominion status would be set up.
2. A constituent assembly would be convened to frame a new constitution.
3. Defense of India would be in the hands of India.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: B

Explanation: In March 1942, a mission headed by Stafford Cripps was sent to India with constitutional proposals to seek Indian support for the war.

Stafford Cripps was a left-wing Laborite, the leader of the House of Commons and a member of the British War Cabinet who had actively supported the Indian national movement.

The main proposals of the mission were as follows.

- An **Indian Union with a dominion status would be set up**; it would be free to decide its relations with the Commonwealth and free to participate in the United Nations and other international bodies.

- After the end of the war, a **constituent assembly would be convened to frame a new constitution.**
- Members of this assembly would be partly elected by the provincial assemblies through proportional representation and partly nominated by the princes.
- The British government would accept the new constitution subject to two conditions: (i) any province not willing to join the Union could have a separate constitution and form a separate Union, and (ii) the new constitution making body and the British government would negotiate a treaty to effect the transfer of power and to safeguard racial and religious minorities.
- **In the meantime, defense of India would remain in British hands and the governor-general's powers would remain intact.**

Q.9) Consider the following statements regarding the **Minto-Morley Reforms**:

1. Indians were allowed to participate in legislative councils.
2. Separate electorates for Muslims and depressed sections.
3. One Indian was appointed to Viceroy's Executive Council.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 3 only
- c) 1, 2 and 3
- d) 2 and 3 only

ANS: B

Explanation: The viceroy, Lord Minto, and the Secretary of State for India, John Morley, agreed that some reforms were due so as to placate the Moderates as well as the Muslims.

- They worked out a set of measures that came to be known as the Morley- Minto (or Minto-Morley) Reforms that translated into the Indian Councils Act of 1909.
- The elective principle was recognised for the nonofficial membership of the councils in India.
- **Indians were allowed to participate in the election of various legislative councils, though on the basis of class and community.**
- For the first time, **separate electorates for Muslims** for election to the central council was established—a most detrimental step for India.
- The number of elected members in the Imperial Legislative Council and the Provincial Legislative Councils was increased. In the provincial councils, non-official majority was introduced, but since some of these non-officials were nominated and not elected, the overall non-elected majority remained.
- **One Indian was to be appointed to the viceroy's executive council.**

Q.10) The **Rampa revolt** is a famous tribal revolt took place in which of the following state?

- a) Telangana
- b) Kerala
- c) Tamil Nadu
- d) None

ANS: D

Explanation: **Rampa Revolts led by Alluri Sitarama Raju of the Koyas (1916, 1922-1924; Rampa region in Andhra Pradesh);** against British interference; capture and execution of Raju in 1924.

Economy

Q.1) Consider the following statements regarding the **Asset Monetisation Framework**:

1. It is prepared by Reserve bank of India.
2. It helps to monetise stressed debts of banking system.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: D

Explanation: The framework is being drafted by the **Department of Investment and Public Asset Management (DIPAM)**. The policy framework lays down the Institutional framework for monetization of the following:

- Identified non-core assets of CPSEs under strategic disinvestment;
- Immovable Enemy Property under the custody of Custodian of Enemy Property (CEPI), MHA as per sub section 6 of section 8A of the Enemy Property Act, 1968;
- This framework is also available for use to monetize assets of other CPSEs/PSUs/other Government Organizations with the approval of the Competent Authority;
- Sick/Loss making CPSEs under closure normally follow the DPE closure guidelines dated 14.06.2018 in this regard. However, any sick/loss making CPSE can also adopt this framework with the approval of Competent Authority.

The objective of the asset monetization programme of the Government of India is to unlock the value of investment made in public assets which have not yielded appropriate or potential returns so far.

Q.2) Which of the following enterprises is/are funded mostly under Venture Capital funds?

1. Start-ups.
2. Small and medium enterprises.
3. Large enterprises.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: B

Explanation: Venture capital funds are investment funds that manage the money of investors who **seek private equity stakes in startup and small- to medium-sized enterprises with strong growth potential**.

- These investments are generally characterized as high-risk/high-return opportunities.
- In the past, venture capital investments were only accessible to professional venture capitalists, although now accredited investors have a greater ability to take part in venture capital investments.

Q.3) Consider the following statements regarding the **Market Stabilization Scheme (MSS)**:

1. It is a tool used by central bank (RBI) to increase the liquidity and bringing the money market under control.
2. It was initiated by Raghuram Rajan in 2013.

Which of the statements given above is/are **NOT** correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: C

Explanation: Market Stabilisation Scheme or MSS is a tool used by the Reserve Bank of India to **suck out excess liquidity from the market** through issue of securities like Treasury Bills, Dated Securities etc. on behalf of the government.

- The money raised under MSS is kept in a separate account called MSS Account and not parked in the government account or utilized to fund its expenditures.
- The **Reserve Bank under Governor YV Reddy initiated the MSS scheme in 2004**, to control the surge of US dollars in the Indian market; RBI started buying US dollars while pumping in rupee.
- This eventually led to over-supply of the domestic currency raising inflationary expectations. MSS was introduced to mop up this excess liquidity.

Q.4) Which of the following is/are **type (s)** of Government Securities (G-Sec)?

1. Treasury Bills (T-bills)
2. Cash Management Bills (CMBs)
3. Dated Government Securities

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: A Government Security (G-Sec) is a tradeable instrument issued by the Central Government or the State Governments. It acknowledges the Government's debt obligation.

Such securities are short term (usually called treasury bills, with original maturities of less than one year) or long term (usually called Government bonds or dated securities with original maturity of one year or more).

In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).

G-Secs carry practically no risk of default and, hence, are called risk-free gilt-edged instruments.

- **Treasury Bills (T-bills):** Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 day, 182 day and 364 day.
- **Cash Management Bills (CMBs):** In 2010, Government of India, in consultation with RBI introduced a new short-term instrument, known as Cash Management Bills (CMBs), to meet the temporary mismatches in the cash flow of the Government

of India. The CMBs have the generic character of T-bills but are issued for maturities less than 91 days.

- **Dated G-Secs:** Dated G-Secs are securities which carry a fixed or floating coupon (interest rate) which is paid on the face value, on half-yearly basis. Generally, the tenor of dated securities ranges from 5 years to 40 years.

Q.5) “Mission Purvodaya” is often seen in news is related to which of the following?

- a) Steel sector
- b) Coal sector
- c) Refinery sector
- d) Cement sector

ANS: A

Explanation: Mission Purvodaya in steel sector envisions creating an integrated steel hub in Eastern India.

- With abundance of raw materials, strategic geographical location and strong and developing connectivity, Odisha is well poised to be the heart of this eastern steel hub.
- The Mission is rolled out by Union Petroleum and Natural Gas & Steel Ministry.
- More than 75% of India's envisioned incremental steel capacity will come from eastern India, with Odisha alone crossing 100 MTPA.
- In Odisha, Kalinganagar will be developed as the epicenter of Mission Purvodaya.

Q.6) Consider the following statements regarding the **Vizag-Chennai Industrial Corridor (VCIC)**:

1. It is part of Kolkata-Kanyakumari East Coast Economic Corridor.
2. It is funded by Asian Infrastructure Investment Bank (AIIB).

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: A

Explanation: Asian Development Bank (ADB) had prepared Conceptual Development Plan (CDP) for Vizag-Chennai Industrial Corridor (VCIC).

- The Andhra Pradesh government has mooted development of nodes in Visakhapatnam, Machilipatnam, Donakonda and on the Yerpedu-Srikalahasti stretch.
- **The VCIC has been identified for development in the first phase of Kolkata-Kanyakumari East Coast Economic Corridor.**
- **The ADB, which prepared the concept paper, has agreed to give \$500 million towards multi-tranche financing facility and policy-based loan worth \$125 million.**

Q.7) Consider the following statements regarding the **Farmer Producer Organization (FPO)**:

1. Farmers, Local representatives and other interested parties are the shareholders of FPO.
2. NABARD has dedicated funds to promote FPOs.

Which of the statements given above is/are correct?

- a) 1 only

- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: B

Explanation: An FPO, formed by a **group of farm producers**, is a registered body with producers as shareholders in the organization.

- It deals with business activities related to the farm produce and it works for the benefit of the member producers.
- **Small Farmers' Agribusiness Consortium (SFAC) is providing support for promotion of FPOs.**
- **NABARD has dedicated Funds like Producer Organisation Development Fund (PODF) and PRODUCE for promotion of FPOs.**
- Financing FPOs through NABARD's subsidiary NABKISAN Finance Ltd., digitisation of FPO data, development of performance measurement tool, etc. have also contributed to the ongoing efforts.
- Besides, NABARD is running an awareness campaign on the role of FPOs in building resilience against climate change, increase in productivity and optimal efficiency in the agri value chain.

Q.8) "Apiary on Wheels" is sometimes seen in news is related to which of the following?

- a) Poultry development
- b) Pulses production
- c) Fast moving consumer goods (FMCG)
- d) Honey bees development

ANS: D

Explanation: The Ministry of Micro, Small and Medium Enterprises has flagged off "Apiary on Wheels".

- Apiary on Wheels is a unique concept designed by the Khadi and Village Industries Commission (KVIC) for the easy upkeep and migration of Bee Boxes having live Bee colonies.
- It is a holistic approach to address the challenges faced by the beekeepers.

Q.9) Which of the following crops are covered under minimum support price (MSP)?

1. Paddy
2. Wheat
3. Cotton
4. Jute
5. Sugar cane

Select the correct answer using the code given below:

- a) 1, 2, 3, 4 and 5
- b) 1, 2 and 4 only
- c) 1, 2, 3 and 4 only
- d) 1, 2, 4 and 5 only

ANS: C

Explanation: The Government's price policy for agricultural commodities seeks to ensure remunerative prices to the growers for their produce with a view to encourage higher investment and production and to safeguard the interest of consumers by making available supplies at reasonable prices with low cost of intermediation.

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- The price policy also seeks to evolve a balanced and integrated price structure in the perspective of the overall needs of the economy.
- Towards this end, the Government announces, Minimum Support Prices (MSP) for 25 major agricultural commodities each year in both the Crop seasons after taking into account the recommendations of the Commission for Agricultural Costs and Prices (CACP).
- CACP recommends MSP for twenty two (22) crops and Fair & Remunerative Price (FRP) for sugarcane.
- Apart from Sugarcane for which FRP is declared by the Department of Food & Public Distribution, twenty two crops covered under MSP are Paddy, Jowar, Bajra, Maize, Ragi, Arhar, Moong, Urad, Groundnut-in-shell, Soyabean, Sunflower, Sesamum, Nigerseed, Cotton, Wheat, Barley, Gram, Masur (lentil), Rapeseed/Mustardseed, Safflower, Jute and Copra.
- In addition, MSP for Toria and De-Husked coconut is fixed by the Department on the basis of MSP's of Rapeseed/Mustardseed and Copra respectively.

Q.10) Which of the following is/are **procurement agency/agencies** for agriculture commodities?

1. Food Corporation of India (FCI).
2. Cotton Corporation of India (CCI).
3. National Consumer Cooperative Federation of India Ltd. (NCCF).

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: Besides, announcement of MSP, the Government also organizes procurement operations of these agricultural commodities through various public and cooperative **agencies such as Food Corporation of India (FCI), Cotton Corporation of India (CCI), Jute Corporation of India (JCI), Central Warehousing Corporation (CWC), National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), National Consumer Cooperative Federation of India Ltd. (NCCF), and Small Farmers Agro Consortium (SFAC).**

Besides, State Governments also appoint state agencies to undertake PSS operations. While deciding the MSP for various agricultural commodities, the recommendations of CACP, the views of Central Ministries and State Governments and such other relevant factors which are important in the opinion of the Government are considered.

The CACP, while recommending the Minimum Support Price keeps in view

- the need to provide incentives to the producers for adopting improved technology and for developing a production pattern broadly in the light of national requirements
- the need to ensure rational utilization of land, water and other production resources and
- the likely effect of the price policy on the rest of the economy, particularly, on the cost of living, level of wages, industrial cost structure etc.

NAFED, Central Warehousing Corporation (CWC), National Consumer Cooperative Federation of India Ltd. (NCCF), Small Farmers Agro Consortium (SFAC) are the central agencies for procurement of oilseeds & pulses.

However, NAFED is also an additional central agency for procurement of cotton, in addition to Cotton Corporation of India (CCI) under the DAC.

Polity

Q.1) Which of the following matters both the houses of Parliament is/are **equal in powers**?

1. Election of the President.
2. Approving the proclamation of emergency.
3. Proclamation regarding failure of constitutional machinery in States.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: Under article 75(3) of the Constitution, the Council of Ministers is collectively responsible to Lok Sabha which means Rajya Sabha cannot make or unmake the Government.

- It can, however, exercise control over the Government and this function becomes quite prominent, particularly when the Government does not enjoy majority in Rajya Sabha.
- Ministers may belong to either House of Parliament. The Constitution does not make any distinction between the Houses in this regard.
- Every Minister has the right to speak and take part in the proceedings of either House but he is entitled to vote only in the House of which he is a member.
- Similarly, with regard to powers, privileges and immunities of the Houses of Parliament, their members and committees thereof, the two Houses are placed absolutely on equal footing by the Constitution.
- **Other important matters in respect of which both Houses enjoy equal powers are election and impeachment of the President, election of the Vice-President, approving the Proclamation of Emergency, the proclamation regarding failure of constitutional machinery in States and financial emergency. In respect of receiving reports and papers from various statutory authorities, etc., both Houses have equal powers.**

Q.2) With reference to the **Parliamentary Standing Committees**, which of the following statements is/are correct?

1. Committee meetings are held in 'closed door'.
2. Members of the committee are bound by their party whips.

Select the correct answer using the code given below:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: A

Explanation: In a parliamentary democracy, Parliament has broadly two functions, which are lawmaking and oversight of the executive branch of the government.

- Parliament is the embodiment of the people's will. Committees (Parliamentary standing committees) are an instrument of Parliament for its own effective functioning.

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- Given the volume of legislative business, discussing all Bills under the consideration of Parliament in detail on the floor of the House is impossible.
- Committees are platforms for threadbare discussion on a proposed law.
- At least in principle, the assumption is that the smaller cohort of lawmakers, assembled on the basis of the proportional strength of individual parties and interests and expertise of individual lawmakers, could have more open, intensive and better informed discussions.
- **Committee meetings are ‘closed door’ and members are not bound by party whips**, which allows them the latitude for a more meaningful exchange of views as against discussions in full and open Houses where grandstanding and party positions invariably take precedence.

Q.3) “The cabinet is a hyphen that joins the buckle that binds the executive and legislative departments together”- is said by?

- a) Ivor Jennings
- b) Bagehot
- c) Montesquieu
- d) Herbert Morrison

ANS: B

Explanation: In the parliamentary system, the legislature and the executive are together and inseparable.

- The cabinet acts as the leader of legislature as well as the executive.
- As **Bagehot points out, ‘the cabinet is a hyphen that joins the buckle that binds the executive and legislative departments together.’**
- Hence, the whole system of government goes against the letter and spirit of the theory of separation of powers. In fact, there is a fusion of powers.

Q.4) Which of the following are the **criteria for declaring any area as a “Scheduled Area” under the Fifth Schedule?**

1. Preponderance of tribal population.
2. Compactness and reasonable size of the area.
3. Economic backwardness of the area as compared to the neighbouring areas.
4. Area surrounded by forests.

Select the correct answer using the code given below:

- a) 1, 2, 3 and 4
- b) 2, 3 and 4 only
- c) 1, 2 and 3 only
- d) 1, 3 and 4 only

ANS: C

Explanation: As per the Constitutional provision under Article 244 (1) of the Constitution of India, the ‘Scheduled Areas’ are defined as ‘such areas as the President may by order declare to be Scheduled Areas’ – as per paragraph 6(1) of the Fifth Schedule of the Constitution of India.

- The specification of “Scheduled Areas” in relation to a State is by a notified order of the President, after consultation with the Governor of that State.
- In accordance with the provisions of paragraph 6(2) of the Fifth Schedule of the Constitution of India, the President may increase the area of any Scheduled Area in a State after consultation with the Governor of that State; and make fresh orders redefining the areas which are to be Scheduled Areas in relation to any State.

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- The same applies in the case of any alteration, increase, decrease, incorporation of new areas, or rescinding any Orders relating to “Scheduled Areas”.
- At present, Scheduled Areas have been declared in the States of Andhra Pradesh (including Telangana), Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha and Rajasthan.

The criteria for declaring any area as a “Scheduled Area” under the Fifth Schedule are:

- **Preponderance of tribal population,**
- **Compactness and reasonable size of the area,**
- **A viable administrative entity such as a district, block or taluk, and**
- **Economic backwardness of the area as compared to the neighbouring areas.**

These **criteria are not spelt out in the Constitution of India** but have become well established. Accordingly, since the year 1950 to 2007 Constitutional Order relating to Scheduled Areas has been notified.

Q.5) According to Article 348 (1) of Indian Constitution, which of the following area (s) is/are **English language** officially used?

1. Supreme Court
2. High Court
3. Drafting bills

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: The higher judiciary appeared to be the sole exception to this English-to-Hindi journey as Article 348(1) stipulates the use of English in the Supreme Court and High Courts as well as for drafting Bills, Acts and Orders.

But Article 348(2) read with Section (7) of the Official Languages Act 1963 provides for Hindi or other official languages to be used in High Courts “in addition to English”.

Q.6) Arrange the following stages of **budget presentation** in Parliament:

1. Presentation of budget
2. General discussion
3. Voting on demands for grants
4. Scrutiny by departmental committees
5. Passing of appropriation bill

Select the correct answer using the code given below:

- a) 1 – 2 – 3 – 4 – 5
- b) 1 – 2 – 4 – 3 – 5
- c) 1 – 2 – 3 – 5 – 4
- d) 1 – 3 – 2 – 4 – 5

ANS: B

Explanation: The budget goes through the following six stages in the Parliament:

- Presentation of budget.
- General discussion.
- Scrutiny by departmental committees.
- Voting on demands for grants.

- Passing of appropriation bill.
- Passing of finance bill.

Q.7) Consider the following statements regarding **Tribal Advisory Council (TAC)**:

1. Each state having scheduled areas has to establish a tribal advisory council.
2. It is to consist of 20 members, three-fourths of whom are representatives of the scheduled tribes in the state assembly.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: C

Explanation: Each state having scheduled areas has to establish a tribal advisory council to advice on welfare and advancement of the scheduled tribes.

- **It is to consist of 20 members, three-fourths of whom are to be the representatives of the scheduled tribes in the state legislative assembly.**
- A similar council can also be established in a state having scheduled tribes but not scheduled areas therein, if the president so directs.

Q.8) Consider the following statements regarding **Central Administrative Tribunal (CAT)**:

1. CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants.
2. CAT is not bound by the procedure laid down in the Civil Procedure Code of 1908.

Which of the statements given above is/are **NOT** correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: D

Explanation: The Central Administrative Tribunal (CAT) was set up in 1985 with the principal bench at Delhi and additional benches in different states.

- At present, it has 17 regular benches, 15 of which operate at the principal seats of high courts and the remaining two at Jaipur and Lucknow.
- These benches also hold circuit sittings at other seats of high courts.
- **The CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants covered by it.**
- Its jurisdiction extends to the all-India services, the Central civil services, civil posts under the Centre and civilian employees of defence services.
- However, the members of the defence forces, officers and servants of the Supreme Court and the secretarial staff of the Parliament are not covered by it.
- **The CAT is not bound by the procedure laid down in the Civil Procedure Code of 1908.** It is guided by the principles of natural justice.
- These principles keep the CAT flexible in approach. Only a nominal fee of 50 is to be paid by the applicant. The applicant may appear either in person or through a lawyer.

Q.9) Consider the following statements regarding the **National Emergency (Article 352)**:

1. President proclaims a national emergency only after receiving a written recommendation from the cabinet.

2. President can declare a national emergency only on the actual occurrence of war or external aggression.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: A

Explanation: Under Article 352, the President can declare a national emergency when the security of India or a part of it is threatened by war or external aggression or armed rebellion.

- It may be noted that the **president can declare a national emergency even before the actual occurrence of war or external aggression or armed rebellion**, if he is satisfied that there is an imminent danger.
- The President, however, **can proclaim a national emergency only after receiving a written recommendation from the cabinet**.
- This means that the emergency can be declared only on the concurrence of the cabinet and not merely on the advice of the prime minister.
- In 1975, the then Prime Minister, Indira Gandhi advised the president to proclaim emergency without consulting her cabinet. The cabinet was informed of the proclamation after it was made, as a fait accompli.
- The 44th Amendment Act of 1978 introduced this safeguard to eliminate any possibility of the prime minister alone taking a decision in this regard.

Q.10) Consider the following statements regarding the **qualifications of Supreme Court Judge**:

- 1. He should be a citizen of India.
- 2. He should have been a Judge of a High Court for 5 years.
- 3. He should have been Advocate of a High Court for 7 years.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 1, 2 and 3
- d) 1 and 3 only

ANS: B

Explanation: A person to be appointed as a judge of the Supreme Court should have the following qualifications:

- 1. He should be a citizen of India.
- 2. **(A)** He should have been a judge of a High Court (or high courts in succession) for five years; or **(B)** He should have been an advocate of a High Court (or High Courts in succession) for ten years; or **(C)** He should be a distinguished jurist in the opinion of the president.

From the above, it is clear that the Constitution has not prescribed a minimum age for appointment as a judge of the Supreme Court.

Science and technology

Q.1) The “**Founder effect**” is related to which of the following?

- a) Genetic drift
- b) Periodic table
- c) Geographical discoveries
- d) Chemical bonding

ANS: A

Explanation: Genetic drift can have major effects when a population is sharply reduced in size by a natural disaster (bottleneck effect) or when a small group splits off from the main population to found a colony (founder effect).

- The founder effect is another extreme example of drift, one that occurs when a small group of individuals breaks off from a larger population to establish a colony.
- The new colony is isolated from the original population, and the founding individuals may not represent the full genetic diversity of the original population.
- That is, alleles in the founding population may be present at different frequencies than in the original population, and some alleles may be missing altogether.
- The founder effect is similar in concept to the bottleneck effect, but it occurs via a different mechanism (colonization rather than catastrophe).
- Genetic studies done on the people of the Lakshwadeep archipelago by a team, led by K. Thangaraj at CSIR-Centre for Cellular and Molecular Biology (CCMB), for the first time have shown that a majority of human ancestry in Lakshadweep is largely derived from South Asia with minor influences from East and West Eurasia.
- And, there was no evidence of early human migration through the Lakshadweep islands.
- “We found a strong **founder effect** for both paternal and maternal lineages — a sign that the island population had limited genetic mixing”, said by scientists.

Q.2) Which of the following statements regarding the **periodic table** is/are correct?

1. It was first designed by Dmitri Ivanovich Mendeleev.
2. United Nations announced 2019 as the International Year of the Periodic Table.

Select the correct answer using the code given below:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: C

Explanation: The **United Nations announced 2019 as the International Year of the Periodic Table of the Chemical Elements to highlight its first publication in 1869.**

- **The periodic table as we know it today was first designed by the Russian scientist Dmitri Ivanovich Mendeleev.**
- This year marks the 150th anniversary of the first publication of the periodic table by Mendeleev.
- Since its creation, the periodic table has been at the centre of a lot of vivid debates and is now considered as “one of the most important and influential achievements in modern science reflecting the essence not only of chemistry, but also of physics, biology and other disciplines.”

- Mendeleev's genius lies in the acknowledgement that at the time, not all the elements were known yet, so he left gaps in the table for undiscovered elements.
- At that time, only 63 elements had been identified. Still the properties of five other elements (the gaps brilliantly added to complete the table) could already been determined using the table.

Q.3) Bats serve as natural hosts for numerous viruses including Ebola virus, Nipah virus and corona viruses, but they rarely effected by these viruses. What would be the appropriate reason?

- a) Bats can avoid excessive virus-induced inflammation.
- b) Bats are mostly nocturnal.
- c) These viruses use bats as host and don't affect the bats.
- d) Due to no impaired production of mRNA (transcript) in bats.

ANS: A

Explanation: Bats serves as natural hosts for numerous viruses including Ebola virus, Nipah virus, corona viruses such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) and the 2019 novel corona virus that has infected nearly 10,000 people and killed over 200 others.

- Even as these viruses cause harm in humans, they rarely if at all cause any harmful effects in bats. This is the case even when the viral load is extremely high in bats.
- The **reason why bats can harbour these viruses without getting affected is simply because bats can avoid excessive virus-induced inflammation**, which often causes severe diseases in animals and people infected with viruses.
- The researchers found that significantly reduced inflammation in bats was because activation of an important protein — NLRP3 — that recognises both cellular stress and viral/bacterial infections was significantly dampened in bat immune cells.
- Studying further, the researchers found that reduced activation of the NLRP3 protein was in turn due to impaired production of mRNA (transcript).
- Since mRNA production is impaired the NLRP3 protein production gets compromised leading to less amount of the protein being produced.
- But this was not the case with mice and humans — there was no impairment to mRNA production so the NLRP3 protein was unaffected.

Q.4) The maximum residue limit (MRL) is sometimes seen in news is related to which of the following?

- a) Pesticides level
- b) Pollution level
- c) Water toxicity
- d) Crude exploration

ANS: A

Explanation: The traces pesticides leave in treated products or those left by veterinary drugs in animals are called "residues".

- The traces pesticides leave in treated products or those left by veterinary drugs in animals are called "residues".
- A study of fruits and vegetables grown in the Nilgiris has found that some of the produce might be harbouring high levels of pesticide, beyond what is considered advisable. This was mainly true of potato and carrot.
- While the Food Safety and Standards Authority of India (FSSAI) prescribes a maximum residual level (MRL) for some of the organophosphate pesticides used, it

does not prescribe it for some other pesticides used in the cultivation of fruit and vegetables.

Q.5) The “*Ophichthus kailashchandrai*”, sometimes seen in news is related to which of the following?

- a) Banana variety
- b) Frog species
- c) Snake eel species
- d) Butterfly species

ANS: C

Explanation: A new snake eel species residing in the Bay of Bengal has been discovered and documented this month (January) by the Estuarine Biology Regional Centre (EBRC) of the Zoological Survey of India (ZSI) at Gopalpur-on-sea in Odisha.

- This new marine species has been named *Ophichthus kailashchandrai* to honour the vast contributions of Dr. Kailash Chandra, Director of ZSI, to Indian animal taxonomy.
- *Ophichthus kailashchandrai* is the eighth species of the *Ophichthus* genus found on the Indian coast. It is the fifth new species discovered by the Gopalpur ZSI in the last two years.
- The eel family ‘Ophichthidae’ comprises two sub-families — Myrophinae (69 species) and Ophichthinae (276 species).
- The sub-family Ophichthinae is identified by its hard tail and other osteological (bone) features, and it has 17 genera and 24 species.
- Out of them, seven species from the *Ophichthus* genus were earlier identified in Indian waters. The recent discovery is the eighth species of this genus.
- The *Ophichthus kailashchandrai* lives at a depth of around 50 metres in the sea. According to the studied specimens, individuals of this species are around 420 mm to 462 mm in length.
- They are light brown in colour, with white fins. They have a well-developed pectoral fin and also have a dorsal fin.
- Their posterior nostril is a hole covered by a flap on the upper lip opening towards the mouth.
- There are 180-182 total vertebrae in this new species. Their teeth are moderately elongated, conical and sharp.

Q.6) Recently, which of the following institute Successfully/efficiently **removes heavy metals simultaneously from water?**

- a) Indian Institute of Technology – Bombay
- b) Indian Institute of Technology – Madras
- c) Indian Institute of Technology – Kharagpur
- d) Indian Institute of Technology – Roorkee

ANS: A

Explanation: Simultaneously removing heavy metals such as arsenic, chromium, cadmium and mercury from waste water with very high efficiency now appears possible, thanks to the work of researchers at the Indian Institute of Technology (IIT) Bombay.

- The carbon-based nanostructure that the team fabricated shows 80-90% adsorption efficiency for all the four heavy metals studied.
- No electricity is required for the nanostructure to remove heavy metals from water as it allows for gravity-driven purification of the water.

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- The nanostructures can be recycled and reused multiple times.
- While there is an initial drop of about 8% after the first cycle, the efficiency remains constant at 75-85% in the subsequent cycles.
- The carbon nanostructure is able to adsorb the heavy metals in the wide range of pH conditions — pH 2 to 13.

Q.7) “Truenat” is often seen in news is related to which of the following?

- a) CoVID – 19 testing kit
- b) Tuberculosis (TB) testing kit
- c) Malaria testing kit
- d) Japan encephalitis testing kit

ANS: B

Explanation: In a Rapid Communication published on January 14 – 2020, the World Health Organization (WHO) had mentioned that the **India-made Truenat MTB, a molecular diagnostic test to diagnose pulmonary and extrapulmonary TB and rifampicin-resistant TB, has high diagnostic accuracy.**

- Truenat MTB has “high diagnostic accuracy as initial test to diagnose TB and to sequentially detect rifampicin resistance”, says the WHO Communication.
- Truenat MTB will be used as an initial test to diagnose TB thus replacing sputum smear microscopy.
- Truenat is developed by the Goa-based Molbio Diagnostics.
- The company was provided with technical assistance and resources by the Foundation for Innovative New Diagnostics (FIND) to help commercialize Truenat. Indian Council of Medical Research (ICMR) had assessed and validated the diagnostic tool.

Q.8) The Earth’s oldest known mineral is found in which of the following Continent?

- a) Antarctica
- b) North America
- c) Africa
- d) Australia

ANS: D

Explanation: A meteorite that crashed into rural southeastern Australia in a fireball in 1969 contained the oldest material ever found on Earth, stardust that predated the formation of our solar system by billions of years, scientists said on January 13 – 2020.

- The oldest of 40 tiny dust grains trapped inside the meteorite fragments retrieved around the town of Murchison in Victoria state dated from about 7 billion years ago, about 2.5 billion years before the sun, Earth and rest of our solar system formed, the researchers said.
- Scientists previously had found a pre-solar grain in the Murchison meteorite that was about 5.5 billion years old, until now the oldest-known solid material on Earth.
- The **oldest-known minerals that formed on Earth are found in rock from Australia's Jack Hills that formed 4.4 billion years ago, 100 million years after the planet formed.**

Q.9) According to the World Health Organization (WHO), which of the following disease (s) is/are considered as **Neglected Tropical Disease (NTD)**?

- 1. Chagas disease
- 2. Dengue fever

3. Rabies

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: Neglected tropical diseases (NTDs) – a diverse group of communicable diseases that prevail in tropical and subtropical conditions in 149 countries – affect more than one billion people and cost developing economies billions of dollars every year.

Populations living in poverty, without adequate sanitation and in close contact with infectious vectors and domestic animals and livestock are those worst affected.

As of 2017, the World Health Organization categorizes the following communicable diseases as neglected tropical diseases (NTDs):

- Buruli Ulcer
- Chagas Disease
- Chromoblastomycosis
- Cysticercosis
- Dengue Fever
- Dracunculiasis (Guinea Worm Disease)
- Echinococcosis
- Fascioliasis
- Human African Trypanosomiasis (African Sleeping Sickness)
- Leishmaniasis
- Leprosy (Hansen's Disease)
- Lymphatic Filariasis
- Mycetoma
- Onchocerciasis
- Rabies
- Schistosomiasis
- Soil-transmitted Helminths (STH) (Ascaris, Hookworm, and Whipworm)
- Trachoma
- Yaws

Q.10) Recently which of the following Indian Institute of Technology (IIT) designed a **new sodium sulphur battery** which can be operated at room temperature?

- a) IIT – Bombay
- b) IIT – Hyderabad
- c) IIT – Madras
- d) IIT – Kanpur

ANS: C

Explanation: While conventional sodium sulphur batteries require very high temperature (300 degree C) for operation, **researchers at the Indian Institute of technology (IIT) Madras have designed a new sodium sulphur battery that can be operated at room temperature.**

By operating the battery at room temperature, the team was able to achieve higher charge storage capacity (technically called the specific capacity) and nearly zero self-discharge when the battery is not being used.

Geography

Q.1) Which of the following is/are the **characteristics of Igneous Rocks**?

1. They are hard and compact.
2. They are granular and crystalline.
3. They are more widespread and constitute about 75% of the surface area of globe.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: B

Explanation: Igneous Rocks - produced by solidification of molten magma from the mantle. Magma that solidifies at the Earth's surface conceives extrusive or volcanic igneous rocks. When magma cools and solidifies beneath the surface of the earth intrusive or plutonic igneous rocks are formed.

Characteristics of Igneous rocks are:

- Formed by the cooling and solidification of lava.
- **Hard in nature.**
- **Consists of crystals**, hence also called as crystalline rock.
- Examples are Granite and Basalt. These rocks are formed inside as well as on the earth.
- Fossils are not present in this rock.
- Igneous rocks are of two types : a. Extrusive rocks b. Intrusive rocks
- It is non porous rock.

NOTE: Sedimentary rocks are most widespread on the surface of the earth and constitute about 75% of the surface area of globe.

Q.2) Which of the following rocks is/are **NOT** sedimentary rocks?

1. Loess
2. Conglomerate
3. Shale

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) None

ANS: D

Explanation: Sedimentary rocks are formed by the accumulation of sediments. There are three basic types of sedimentary rocks.

- **Clastic sedimentary rocks such as breccias, conglomerate, sandstone, siltstone, loess and shale are formed from mechanical weathering debris.**
- **Chemical sedimentary rocks**, such as rock salt, iron ore, chert, flint, some dolomites, and some limestone, form when dissolved materials precipitate from solution.

- **Organic sedimentary rocks** such as coal, some dolomites, and some lime stones, form from the accumulation of plant or animal debris.

Q.3) The “**Nazca tectonic plate**” is related to which of the following?

- a) South America
- b) North America
- c) Australia
- d) Europe

ANS: A

Explanation: The Nazca plate is an oceanic tectonic plate in the southeastern Pacific Ocean that shares both convergent and divergent boundaries, corners multiple triple junctions, contains three seamount chains, overrides four hotspots, and is responsible for the creation of the Andean orogeny.

- Over the last half-century, it has garnered much attention from the scientific and political community due to the hazards it poses to the populated west coast of **South America**.
- With oblique subduction underneath the South American plate, this active convergent margin is the longest subduction zone in the world, stretching 7500 km and produced the largest earthquake ever recorded on earth, the M 9.5 Valdivia earthquake.

Q.4) Which of the following **cloud** is also known as rain cloud?

- a) Altocumulus
- b) Cirrostratus
- c) Nimbostratus
- d) Altostratus

ANS: C

Explanation: The prefix "nimbo-" or the suffix "-nimbus" are low-level clouds that have their bases below 2,000 meters (6,500 feet) above the Earth.

- Clouds that produce rain and snow fall into this category. ("Nimbus" comes from the Latin word for "rain.") Two examples are the nimbostratus or cumulonimbus clouds.
- Nimbostratus clouds bring continuous precipitation that can last for many hours. These low-level clouds are full of moisture.
- Cumulonimbus clouds are also called thunderheads. Thunderheads produce rain, thunder, and lightning.
- Many cumulonimbus clouds occur along cold fronts, where cool air is forced under warm air.
- They usually shrink as evening approaches, and moisture in the air evaporates. Cumulonimbus clouds gradually become stratocumulus clouds, which rarely produce rain.

Q.5) Which of the following are refer as the **Roaring Forties, Furious Fifties and Shrieking or Stormy Sixties?**

- a) Easterlies
- b) Westerlies
- c) Horse latitudes
- d) Doldrums

ANS: B

Explanation: The Roaring Forties take shape as warm air near the equator rises and moves toward the poles.

- Warm air moving pole-ward (on both sides of the equator) is the result of nature trying to reduce the temperature difference between the equator and at the poles created by uneven heating from the sun.
- This process sets up global circulation cells, which are mainly responsible for global-scale wind patterns.
- The air descends back to Earth's surface at about 30 degrees' latitude north and south of the equator. This is known as the high-pressure subtropical ridge, also known as the horse latitudes.
- Here, as the temperature gradient decreases, air is deflected toward the poles by the Earth's rotation, **causing strong westerly and prevailing winds at approximately 40 degrees. These winds are the Roaring Forties.**
- The Roaring Forties in the Northern Hemisphere don't pack the same punch that they do in the Southern Hemisphere.
- This is because the large land masses of North America, Europe, and Asia obstructing the airstream, whereas, in the southern hemisphere, there is less land to break the wind in South America, Australia, and New Zealand.
- **While the Roaring Forties may be fierce, 10 degrees south are even stronger gale-force winds called the Furious Fifties.**
- **And 10 degrees south of the Furious Fifties lay the Screaming Sixties! We can thank the intrepid sailors of yore for these wildly descriptive terms.**

Q.6) The **major hot deserts** of the world are mainly associated with which of the following?

- a) Doldrums
- b) Horse latitudes
- c) Westrlies
- d) Jet Streams

ANS: B

Explanation: The **hot deserts lie astride the Horse Latitudes** or the sub-tropical high pressure belts where the air is descending, a condition is least favourable for precipitation of any kind to take place.

Q.7) The tribes "**Bedouins and Bindibu**" are associated with which of the following climatic regions?

- a) Equatorial desert
- b) Mid-latitude desert
- c) Polar regions
- d) Tropical regions

ANS: B

Explanation: The **mid-latitude desert** is considered an arid climate in which the total annual precipitation is less than half the annual potential evapotranspiration.

- Precipitation is sparse as the interior location is distant from a source of moisture. Or, the lack of rainfall is due to its leeward, rain shadow location.
- **Despite the inhospitality, the desert has always been populated by different group of inhabitations such as Bedouins of Arab, Bushmen of Kalahari, Bindibu of Australia etc.**

Q.8) Movement of water caused by meteorological effects like winds and atmospheric pressure changes are known as?

- a) Tides
- b) Gyres
- c) Surges
- d) Current

ANS: C

Explanation: The periodical rise and fall of the sea level, once or twice a day, mainly due to the attraction of the sun and the moon, is called a tide.

Movement of water caused by meteorological effects (winds and atmospheric pressure changes) is called surges. Surges are not regular like tides.

Q.9) Consider the following statements regarding the **earthquake waves**:

- 1. P-waves move faster and are the first to arrive at the surface.
- 2. P waves travel through solid only.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: A

Explanation: Earthquake waves are basically of two types — body waves and surface waves. Body waves are generated due to the release of energy at the focus and move in all directions travelling through the body of the earth. Hence, the name body waves.

- The body waves interact with the surface rocks and generate new set of waves called surface waves. These waves move along the surface.
- The velocity of waves changes as they travel through materials with different densities. The denser the material, the higher is the velocity.
- Their direction also changes as they reflect or refract when coming across materials with different densities.
- There are two types of body waves. They are called P and S-waves. **P-waves move faster and are the first to arrive at the surface. These are also called 'primary waves'.**
- The P-waves are similar to sound waves. **They travel through gaseous, liquid and solid materials.**
- S-waves arrive at the surface with some time lag. These are called secondary waves. An important fact about S-waves is that they can travel only through solid materials.

Q.10) Consider the following statements regarding **crust of the earth**:

- 1. The average density of continental crust is less than that of oceanic crust.
- 2. The oceanic crust is thinner than the continental crust.

Which of the statements given above is/are **NOT** correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: D

Explanation: The Crust is the outermost solid part of the earth. It is brittle in nature. The thickness of the crust varies under the oceanic and continental areas.

- **Oceanic crust is thinner as compared to the continental crust.** The mean thickness of oceanic crust is 5 km whereas that of the continental is around 30 km.
- The continental crust is thicker in the areas of major mountain systems. It is as much as 70 km thick in the Himalayan region.
- **The average density of oceanic crust is 3.0 g/cm³, while continental crust has an average of 2.7 g/cm³.**

Environment

Q.1) Consider the following statements regarding the **Kaiser-i-Hind butterfly**:

1. It is mostly found in the Eastern Himalayas.
2. It is protected under schedule II of Wildlife (Protection) Act, 1972.
3. It is an IUCN red-listed species.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: Kaiser-i-Hind (*Teinopalpus imperialis*) is one of the most elusive swallowtail butterflies, with a 90mm to 120mm wingspan.

- **It occurs in Eastern Himalayan States like Bengal (Darjeeling), Sikkim, Assam, Arunachal Pradesh, Manipur, the Khasi hills of Meghalaya** as well as outside India in Nepal, Bhutan, Myanmar, southern China, Vietnam and Laos.
- The butterfly keeps to the top of trees and is therefore difficult to capture. It was once plentiful in the Khasi hills, near Cherrapunjee.
- Kaiser-i-Hind is a rare and spectacular swallowtail butterfly species. It is protected by Indian law under schedule II of Wildlife (Protection) Act, 1972.
- This butterfly is an IUCN red-listed species.
- It has a strong and fast flight. It usually flies at tree-top level but when there is strong morning sunlight it descends to sit on low vegetation.
- April to July is the period when it is in flight. Its eggs are laid on the underside of leaves and are pale purplish red in colour and smooth and spherical in shape.

Q.2) The **Slender Loris species**, sometimes seen in news is endemic to which of the following area?

- a) Eastern Ghats
- b) Western Ghats
- c) North Himalayas
- d) North Eastern Himalayas

ANS: A

Explanation: Lorises are unique tiny creatures that live on trees. **Endemic to the Eastern Ghats they are distributed in select pockets across Tamil Nadu, Andhra Pradesh and Kerala.**

- The patch of deciduous shrub forest in Ayyalur, situated on the Dindigul-Tiruchi-Karur border has been identified as an international hotspot for the Grey Slender Loris by IUCN (International Union for Conservation of Nature).
- IUCN has listed them as Endangered, whereas they are listed under the Schedule I of the Wildlife (Protection) Act of India, 1972, according them the highest level of legal protection.

Q.3) Under which of the following Act, the Environmental Impact Assessment (EIA) has got the **statutory status**?

- a) The Indian Wildlife (Protection) Act (1972)
- b) The Air (Prevention and Control of Pollution) Act (1981)
- c) The Environment (Protection) Act (1986)
- d) The Biological Diversity Act (2002)

ANS: C

Explanation: Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

- EIA is basically a tool used to assess the positive and negative environmental, economic and social impacts of a project. This is used to predict the environmental impacts of a project in the pre-planning stage itself so that decisions can be taken to reduce the adverse impacts.
- EIA started in India in 1976-77 when the Planning Commission directed the Department of Science & Technology to assess the river valley projects from the point of view of the environment.
- **Then, in 1986, the government enacted the Environment (Protection) Act which made EIA statutory.**
- The other main laws in this regard are the Indian Wildlife (Protection) Act (1972), the Water Act (1974), the Air (Prevention and Control of Pollution) Act (1981), and the Biological Diversity Act (2002).

Q.4) Consider the following statements regarding the **Platypus (mammal)**:

1. It is found only in Australia.
2. It is one of the monotremes that lay eggs instead of giving birth to live young.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: C

Explanation: The **platypus is a remarkable mammal found only in Australia**. The platypus is a duck-billed, beaver-tailed, otter-footed, egg-laying aquatic creature native to Australia.

- The platypus is the sole living representative of its family, and genus, though a number of related species appear in the fossil record.
- It is one of the five extant species of monotremes, the **only mammals that lay eggs instead of giving birth to live young**.

Q.5) Which of the following pair (s) is/are correctly matched?

| Zoological Park | : | State |
|----------------------------------|---|----------------|
| 1. Nehru Zoological Park | : | Andhra Pradesh |
| 2. Indira Gandhi Zoological Park | : | Telangana |
| 3. Amirthi Zoological Park | : | Tamil Nadu |

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 3 only

ANS: D

Explanation: **Indira Gandhi Zoological Park** is located amidst Kambalakonda Reserve Forest in Visakhapatnam, Andhra Pradesh, India. It is the third largest zoo in the country. The zoological park is named after the former Prime Minister of India, Indira Gandhi. It was declared open to the public on 19 May 1977.

Nehru Zoological Park is a zoo located near Mir Alam Tank in Hyderabad, Telangana, India.

Amirthi Zoological Park is a zoo in Tiruvannamalai District in the Indian state of Tamil Nadu. It was opened in 1967 and is about 25 kilometres from the Vellore city. The area of the park is 25 hectares and one can find beautiful waterfalls.

Q.6) Recently, **world's oldest fossil forest** has discovered by scientists in which of the following area?

- a) United States of America
- b) Congo
- c) Australia
- d) China

ANS: A

Explanation: Scientists have discovered remnants of the world's oldest fossil forest — an extensive network of trees around 386 million years old — in sandstone quarry in the U.S.

- The fossil forest in Cairo would have spread from New York all the way into Pennsylvania and beyond, according to the researchers from Binghamton University, and New York State Museum in the U.S.
- The forest is around 2 or 3 million years older than what was thought to be the world's oldest forest at Gilboa, also in New York State and around 40 kilometres away from the Cairo site.

Q.7) Consider the following statements regarding the **Global Carbon Project (GCP)**:

1. It is a global research project of United Nations Environment Programme (UNEP).
2. The goal of the project is to develop a complete picture of the global carbon cycle.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: B

Explanation: **The Global Carbon Project is a Global Research Project of Future Earth and a research partner of the World Climate Research Programme.**

- It was formed to work with the international science community to establish a common and mutually agreed knowledge base to support policy debate and action to slow down and ultimately stop the increase of greenhouse gases in the atmosphere.
- The overwhelming realization that anthropogenic climate change is a reality has focused the attention of the scientific community, policymakers and the general public on the rising atmospheric concentrations of the main greenhouse gases, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O).
- The GCP has approached this challenge by focusing comprehensively on the global biogeochemical cycles which govern these three greenhouse gases, including their natural and human drivers, and opportunities for low carbon pathways.

- **The scientific goal of the Global Carbon Project is to develop a complete picture of the global carbon cycle**, including both its biophysical and human dimensions together with the interactions and feedbacks between them.

Q.8) The “**Operation Clean Art**” is sometimes seen in news is related to which of the following?

- a) Protection of Tigers
- b) Protection of Mongoose
- c) Protection of Olive ridley turtles
- d) Protection of Elephants

ANS: B

Explanation: “**Operation Clean Art**” was the first pan India operation to crackdown on the smuggling of mongoose hair in the country.

- There are six species of mongoose found in India and we have mostly recovered [in the raids] grey mongoose [hair].
- An adult mongoose yields over 30-40 gm of long hair, from which only 20-25 gm of “brush-making hair” is recovered.
- Operation Clean Art was conceived by WCCB with the singular aim of ensuring that the mongoose hair brush trade should be closed down across the country.
- Describing the making of brushes with mongoose hair an “organised crime”, the official said most of these animals were poached by “hunting communities” across the country.
- The mongoose is listed in Schedule II Part 2 of the Wildlife Protection Act and any smuggling or possession of its body part is a non-bailable offence.

Q.9) Recently which of the following international Institute has launched the **Accelerator Lab** to tackling pollution?

- a) United Nations Environmental Programme (UNEP)
- b) World Economic Forum
- c) World Bank
- d) United Nations Development Programme (UNDP)

ANS: D

Explanation: Seeking to address some of the most pressing issues facing India, including air pollution, through innovation, **the United Nations Development Programme** in November 2019, launched the country chapter of its Accelerator Lab here.

- The laboratory that will be housed in the UNDP India office has partnered with the Indian government’s Atal Innovation Mission to achieve its objectives.
- Other issues that the laboratory will seek to address include sustainable water management and client-resilient livelihoods.

Q.10) The report, “**Strengthening Forest Fire Management in India**” is recently in news, is jointly prepared by the Ministry of Environment, Forest, and Climate Change (MoEFCC) and which of the following Multilateral Institution?

- a) World Economic Forum
- b) United Nations Environment Programme
- c) World Bank
- d) UN-REDD Programme

ANS: C

Explanation: At a time when India has managed to increase its forest cover to over 20 percent of its geographical area, forest health continues to show signs of strain.

- Regeneration is either inadequate or absent in about 45 percent of all forest areas and about 95 percent of all forest plots inventoried show some signs of degradation.
- **The report, “Strengthening Forest Fire Management in India”, jointly prepared by the Ministry of Environment, Forest, and Climate Change (MoEFCC) and the World Bank says forest fires are today a leading cause of forest degradation in India.**
- The report discusses policies on forest fire prevention and management (FFPM) at the national, state and local levels, underscoring the need for a comprehensive national policy and guidelines.
- It provides recommendations on five broad themes – policy, institutions and capacity, community engagement, technology, and data and information and looks at national and international best practices in FFPM.

Reports & commissions

Q.1) The “**Whitley Commission**” during British period in India was related to which of the following?

- a) Agriculture
- b) Education
- c) Labour
- d) Irrigation

ANS: C

Explanation: The Royal Commission on Labour or the Whitley Commission on Labour was set up in 1929 to inquire into the existing conditions of labour in industrial undertakings and plantations in India. The Commission was chaired by John Henry Whitley. The commission submitted its report in 1931

Q.2) The **cause of Bhagadars** (Tebhaga movement) was supported by which of the following commission?

- a) Floud Commission
- b) Chatfield Commission
- c) Sapro Commission
- d) Hilton Young Commission

ANS: A

Explanation: The Tebhaga movement was led by the share croppers of the Bengal region against the oppressive jotedars in 1946-47.

- The uprising was due to the share cropping system that prevailed in the Bengal. During the early nineteen century a new class of rich peasants known as jotedars emerged in the Bengal region.
- The jotedars collected huge tracts of land in rural areas. They also controlled the local markets, money lending activities, exercised control over the poor cultivators.
- The **sharecroppers were encouraged by the Floud Commission which had already recommended their demand to the government.**
- The movement was led by the All India Kisan Sabha, the peasant wing of CPI.
- Initially only few peasants were participated but in January 1947, the Bengal Bargadars Temporary Regulation Bill incorporated the demand of the Sharecroppers. This encouraged the movement and led to the increased participation of the peasants from rural areas.
- At the request of the jotedars, the police suppressed the sharecroppers. By March 1947, the movement slowly disappeared due to government promises. But the government failed to pass the bill immediately and it was only in 1950, the bill was passed.

Q.3) The “**Islington Commission**” during British India was related to which of the following?

- a) Princely States
- b) Education
- c) Finance
- d) Public Service

ANS: D

Explanation: Islington Commission, 1912 a Royal Commission formed to recommend reforms in the Public Service of British India with Lord Islington as its chairman.

- A ten member commission, which included three Indians, was given the task of examining the Indian demand to increase the number of Indians in the Higher Civil Services and, most importantly, holding simultaneous examination in India.
- The commission was guided by three principal considerations: firstly, to maintain high standards of civil administration in British India; secondly, to safeguard the paramount interest of British rule; and thirdly, to satisfy the reasonable aspirations of Indians and promote friendly relations between Indians and Europeans for better governance.
- The commission completed its report in 1915, but owing to the outbreak of the First World War, the report was not published until 1917.
- The commission examined several important issues and made a number of recommendations in regard to the Higher Civil Services.
- It suggested that the services were to be reorganised into higher and lower branches on the basis of work and not on the basis of race or salary and that no other artificial distinction should be maintained.
- Excepting the case of ICS, all other civil servants, once promoted from a lower to a higher service, should enjoy equal benefits and should be treated identically with those directly recruited and should be considered as full members of the service.
- The Civil Services were divided into four categories- Imperial, Central, Provincial and Subordinate.
- The existing problems of recruitment to various services from the point of view of place, fixation of salary, and proportion of Indians were examined.

Q.4) Which of the following **milestones** is/are identified by Reserve Bank of India's National Strategy for Financial Inclusion?

1. Banking access to every village (or hamlet of 500 households in hilly areas) within a five km radius by March 2020.
2. Move towards cash less society by March 2022.
3. Every adult has access to a financial service provider through a mobile device by March 2024.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: The Reserve Bank of India (RBI) released the National Strategy for Financial Inclusion 2019-2024 on January 10, 2020.

- It sets forth the vision and objectives of financial inclusion policies in India.
- The strategy was prepared by the RBI with inputs from the central government and financial sector regulators (Securities and Exchange Board of India, Insurance Regulatory and Development Authority of India and Pension Fund Regulatory and Development Authority of India).

RBI identified six strategic objectives of a national strategy for financial inclusion:

- universal access to financial services,
- providing basic bouquet of financial services,

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- access to livelihood and skill development,
- financial literacy and education,
- customer protection and grievance redressal, and
- effective coordination.

To achieve this vision, it identified certain milestones such as:

- **providing banking access to every village (or hamlet of 500 households in hilly areas) within a five km radius by March 2020,**
- **strengthening digital financial services to create infrastructure to move towards a cash less society by March 2022, and**
- **ensuring that every adult has access to a financial service provider through a mobile device by March 2024.**

Q.5) Which of the following is/are recommendations of Working Group constituted by the Reserve Bank of India to review **agricultural credit**?

1. It recommended that banks should provide crop loans only through Kisan Credit Cards in order to curb the misuse of interest subsidy (Interest subvention scheme).
2. It recommended that loan waivers should be avoided.
3. It recommended that separate lending targets should be set for allied activities.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: D

Explanation: A Working Group constituted by the Reserve Bank of India to review agricultural credit released its report on September 13, 2019.

- It was asked to examine: (i) reach of institutional credit, (ii) ease of credit and inclusiveness, and (iii) impact of loan waivers on state finances and credit discipline. Key observations and recommendations of the Working Group include:
- The Working Group noted that the central and state governments need to increase their capital expenditure which will stimulate the demand for investment credit in agriculture.
- It also recommended that banks should provide crop loans under the scheme only through Kisan Credit Cards in order to curb the misuse of interest subsidy.
- The Working Group recommended that: (i) loan waivers should be avoided, and (ii) the central and state governments should undertake a holistic review of agricultural policies and input subsidies in order to improve the overall viability and sustainability of agriculture.
- The Working Group recommended that separate lending targets should be set for allied activities and banks should not insist on land records for up to two lakh rupees of such credit.
- It recommended the central government to push states to timely complete the process of digitization and updation of land records.
- States having highly restrictive land leasing frameworks should be encouraged to adopt reforms based on the Model Land Leasing Act and the Andhra Pradesh Land Licensed Cultivators' Act, 2011.

Q.6) The **Malegam Committee** often seen in news is related to which of the following?

- a) Micro-finance

- b) Priority sector lending
- c) Insurance
- d) Currency convertibility

ANS: A

Explanation: The **Board of Directors of the Reserve Bank of India** formed a **Sub-Committee of the Board to study matters and concerns in the microfinance sector** insofar as they are related to the entities regulated by the Bank.

- The Sub-Committee was under the chairmanship of **Y.H. Malegam**.
- The terms of mention of the Sub-Committee included framing the description of 'microfinance' and 'Micro Finance Institutions (MFIs)' for the point of regulation of non-banking finance companies (NBFCs) undertaking microfinance by the Reserve Bank of India and giving proper recommendations.
- Also, the committee had to look at the widespread activities of MFIs in relation to interest rates, lending and recovery measures to identify trends that impose on borrowers' interests.

Q.7) "A K Mathur Commission", sometimes seen in news is related to which of the following?

- a) Environmental conservation
- b) Pay commission
- c) Financial inclusion
- d) Renewable energy

ANS: B

Explanation: 7th **Central Pay Commission (CPC)** headed by **Justice AK Mathur** has recommended 23.55 percent hike in pay and allowances of government employees.

In this regard the commission has submitted its report to Union Finance Ministry in New Delhi and the recommended pay revision will come into effect from 1 January 2016.

Q.8) "Global Forum on Environment (GFENV)" is a venue to explore common policy issues focusing principally on the environmental dimension of sustainable development and its linkages with economic and social policies – is conducted by which of the following?

- a) OECD
- b) World Economic Forum
- c) United Nations Environmental Programme
- d) World Bank

ANS: A

Explanation: The Global Forum on Environment (GFENV) is a venue that brings together international experts from member and non-member economies to share experiences and explore common policy issues focusing principally on the environmental dimension of sustainable development and its linkages with economic and social policies.

Issues to be addressed in the Global Forum on Environment are shaped based on the current work of the **OECD** Environment Programme, by focusing on one or two priority issues on the global environmental agenda each year.

Q.9) The "Non-state Actor Zone for Climate Action (NAZCA)" is related to which of the following?

- a) UNFCCC
- b) UNEP

- c) WEF
- d) IPCC

ANS: A

Explanation: The Global Climate Action portal (NAZCA) is an online platform where actors from around the globe - countries, regions, cities, companies, investors and other organizations - can display their commitments to act on climate change.

Launched by UN Climate Change (UNFCCC), Peru and France in 2014, the portal was born of the realization that addressing climate change will take ambitious, broad-based action from all segments of society, public and private.

Q.10) The “**Race To Zero Campaign**” is related to which of the following?

- a) UNEP
- b) UNFCCC
- c) GEF
- d) IPCC

ANS: B

Explanation: **Race To Zero is a global campaign to rally** leadership and support from businesses, cities, regions, investors for a healthy, resilient, zero carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth.

- **It mobilizes a coalition of leading net zero initiatives, representing 449 cities, 21 regions, 995 businesses, 38 of the biggest investors, and 505 universities.**
- These ‘real economy’ actors join 120 countries in the largest ever alliance committed to achieving net zero carbon emissions by 2050 at the latest.
- Collectively these actors now cover nearly 25% global CO2 emissions and over 50% GDP.
- **Led by the High-Level Climate Champions for Climate Action – Nigel Topping and Gonzalo Muñoz– Race To Zero mobilizes** actors outside of national governments to join the Climate Ambition Alliance, which was launched at the UNSG’s Climate Action Summit 2019 by the President of Chile, Sebastián Piñera.
- The objective is to build momentum around the shift to a decarbonized economy ahead of **COP26 (UNFCCC)**, where governments must strengthen their contributions to the Paris Agreement.
- This will send governments a resounding signal that business, cities, regions and investors are united in meeting the Paris goals and creating a more inclusive and resilient economy.